

WHAT IS CLAIMED IS:

1. A piezoelectric oscillator, comprising:
a resonator package accommodating a piezoelectric resonating element in the piezoelectric oscillator; and
a semiconductor device fixed onto a rear surface of the resonator package and having a built-in oscillating circuit,
an inner lead portion of a lead frame fixed onto the rear surface of the resonator package and the resonator package and the semiconductor device being resin molded, except an outer lead portion of the lead frame.
2. The piezoelectric oscillator according to Claim 1, the rear surface of the resonator package having a larger area than a bonded surface of the semiconductor device fixed onto the rear surface and the inner lead portion fixed by using an exposed surface exposed in a state in which the semiconductor device is fixed onto the rear surface.
3. The piezoelectric oscillator according to Claim 1, the resonator package sealed by a metal lid body, and a terminal conducted to the lid body being provided on the rear surface of the resonator package and the terminal conducted to the lid body and the inner lead portion connected to the semiconductor device being electrically coupled and fixed by being made contact with each other.
4. The piezoelectric oscillator according to Claim 1, on the rear surface of the resonator package, a terminal connected to the piezoelectric resonating element accommodated in the resonator package being provided, the inner lead portion connected to the semiconductor device being fixed in a state of being insulated from the terminal and the terminal connected to the piezoelectric resonating element and an oscillating circuit terminal of the semiconductor device connected by wire-bonding.
5. The piezoelectric oscillator according to Claim 1, on the rear surface of the resonator package, a terminal connected to the piezoelectric resonating element accommodated in the resonator package being provided, the inner lead portion connected to the semiconductor device being made in a state of being insulated from the terminal by being arranged so as not to overlap two-dimensionally with the terminal and the terminal and an oscillating circuit terminal of the semiconductor device connected by wire-bonding.
6. The piezoelectric oscillator according to Claim 1, the piezoelectric oscillator being resin molded except a region at the center part of the lid body of the resonator package.
7. A portable telephone unit applying a piezoelectric oscillator, comprising:

a resonator package accommodating a piezoelectric resonating element in the resonator package; and

a semiconductor device fixed onto a rear surface of the resonator package and having a built-in oscillating circuit, the portable telephone unit obtaining a control clock signal by the piezoelectric oscillator, in which an inner lead portion of a lead frame being fixed onto the rear surface of the resonator package and the resonator package and the semiconductor device being resin molded except an outer lead portion of the lead frame.

8. Electronic equipment applying a piezoelectric oscillator, comprising:

a resonator package accommodating a piezoelectric resonating element in the resonator package, and

a semiconductor device fixed onto a rear surface of the resonator package and having a built-in oscillating circuit, the electronic equipment obtaining a control clock signal by the piezoelectric oscillator, in which an inner lead portion of a lead frame being fixed onto the rear surface of the resonator package and the resonator package and the semiconductor device being resin molded except an outer lead portion of the lead frame.